UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 27 2009

MEMORANDUM

SUBJECT: ACTION MEMORANDUM – Request to Conduct a Time-Critical Removal Action at the Matthiessen & Hegeler Zinc Site, LaSalle, LaSalle County, Illinois (Site ID B568)

FROM: Theresa Holz, On-Scene Coordinator
Emergency Response Branch II – Section III

TO: Richard C. Karl, Director
Superfund Division

THRU: Linda Nachowicz, Chief
Emergency Response Branch II

I. PURPOSE

The purpose of this memorandum is to request and document your approval to expend up to $168,933 in order to mitigate threats to public health, welfare, and the environment at the Matthiessen & Hegeler Zinc Superfund Site in LaSalle, LaSalle County, IL. The Site has been on the National Priorities List since 2003. A remedial investigation/feasibility study is ongoing. The time-critical response action is necessary to address the release or the substantial threat of future releases of friable asbestos and contaminated debris containing high levels of various metals, particularly lead. Friable asbestos is listed as a hazardous substance under Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. § 9602 (Designation of Hazardous Substances, 40 C.F.R. § 302.4). Additionally, EPA has identified asbestos as a hazardous air pollutant under Section 112 of the Clean Air Act, 42 U.S.C. § 7412(b).

The threat is presented by the presence of asbestos-containing material (ACM) with percentages of asbestos in the materials as high as 20%. The ACM is located on the outside of several degraded Site buildings and lying on the ground in an open field. All ACM identified during the removal site assessment is located in close proximity to a Carus Chemical Company building which is an active operating chemical manufacturing facility. The ACM thus poses a direct threat to public health. Public health is also threatened by the high levels of lead and other metals in dust found throughout a laboratory building. The laboratory building is a dilapidated structure on the verge of collapse that sits on the property line of the active Carus Chemical Company. If the laboratory building

were to collapse, the workers at Carus Chemical Company would be exposed to concentrations of arsenic, cadmium, zinc, and lead above regulatory criteria.

The proposed response action will mitigate the threat posed to human health and the environment from Site conditions by properly removing the ACM and the contaminated laboratory building for off-Site disposal. The response action will be conducted in accordance with Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1).

Removal Site activities will include Site security, air monitoring, removal of the laboratory building to mitigate exposure threats and to ensure health and safety of cleanup contractors. The advanced deterioration and imminent collapse of the laboratory building, and the close proximity of all the contaminants to the active business and on-Site workers performing the feasibility study necessitate the classification of this removal action as time critical. The removal activities are expected to take 10 on-Site working days to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID# IL0000064782

A. PHYSICAL LOCATION AND DESCRIPTION

The Matthiessen and Hegeler Zinc Site is located at 1256 Sterling Street, LaSalle, Illinois. The geographical coordinates for the Site are Latitude: 41.3404 N, Longitude: -89.0890 W. The M&H Zinc Site is approximately 160 acres inclusive of the inactive primary zinc smelting operations, associated building, a rolling mill, and the active Carus Chemical Company. The Site is bounded by the Little Vermillion River to the north and east, and residential areas to the south and west. As already noted, the active Carus Chemical Company is located adjacent to and directly south of the laboratory building. Five schools and over ten churches are located within one mile of the Site, and four parks are located within one half mile of the Site. This is an NPL Site and will be referenced as "Site" for the remainder of this document.

B. ENVIRONMENTAL JUSTICE ANALYSIS

According to the Region 5 Superfund Environmental Justice Analysis in Illinois, the low income percentage is 27% and the minority percentage is 32%. To meet the Environmental Justice (EJ) concern criteria, the area within one mile of the Site must have a population that is twice the state low income and/or twice the state minority percentage. That is, to qualify as an EJ Site, the area must be at least 54% low income and/or 64% minority. The minority population for this Site is 12% and the low income population is 44%. Therefore, this removal site does not meet the Region's EJ criteria based on demographics as identified in "Region

5 Superfund EJ Analysis Matthiessen and Hegeler Zinc Site, LaSalle, IL." (Attachment 1)

C. BACKGROUND

The Matthiessen and Hegeler Zinc Site began operations in 1858 as a zinc smelter. A rolling mill was built on Site in 1866 to produce zinc sheets. Any sulfur dioxide created from the production of zinc sheets was recovered and converted into sulfuric acid and stored on Site. This Site also had an ammonium sulfate fertilizer plant which was operational during the 1950's. Coal mining occurred at the Site until 1937 as well. Zinc smelting ceased in 1961 and sulfuric acid manufacturing halted in 1968. From 1968 through 1978 the facility only performed rolling mill operations. The rolling mill was purchased in 1980 and became the LaSalle Rolling Mill. The company operated under contract with the United States Mint until 2000 when bankruptcy was declared.

In 2003, USEPA conducted an emergency removal action at the LaSalle Rolling Mill to address cyanide contamination, old plating line waste, and various other chemicals and storage tanks that remained after the closure of the mill. The asbestos went unnoticed and was not addressed at that time. Also in 2003, this Site was listed on the NPL.

U.S. EPA Emergency Response Branch conducted an initial Site visit on August 15, 2008 per the request of the USEPA Remedial Project Manager, and a Site Assessment on August 26, 2008. The Removal Site Assessment identified a dilapidated laboratory building adjacent to the parking lot at the active Carus Chemical Company. Extreme amounts of dust throughout the building were found to contain high levels of lead and various other metals. Sample analysis confirmed the presence of high concentrations of lead at 16,000 parts per million (ppm) and a Toxicity Characteristic Leaching Procedure (TCLP) value of 48 ppm, exceeding the USEPA Regional Screening Levels for Contaminants of Concern at Superfund Sites and the USEPA Soil Screening Levels criteria of 400 ppm; exceeding the Superfund Lead-Contaminated Residential Sites Handbook Tier 1 properties criteria of 1,200 ppm; exceeding the TCLP 40 CFR §261.24 criteria of 5 ppm; and exceeding the Superfund Adult Lead Methodology screening value for soil lead at commercial/industrial Sites criteria of 800 ppm. Cadmium, zinc and arsenic also exceeded EPA's screening criteria. As already noted, friable asbestos or ACM was found throughout the Site during the Removal Site Assessment. ACM that contains over 1% Chrysotile and is friable is considered to be Regulated Asbestos-Containing Material. Sample analysis found the ACM to contain up to 20% Chrysotile. Currently workers are present throughout the Site and at adjacent properties; therefore, they can easily be exposed to the ACM and metal-contaminated dust. A large portion of the Site is wooded and animals are regularly seen throughout the Site.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Matthiessen and Hegeler Zinc Site present a potential threat of release of CERCLA hazardous substances and pollutants or contaminants; present an imminent and substantial endangerment to the public health, welfare, and the environment; and meet the criteria for a time-critical removal action provided for in Section 300.415 (b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), as amended, 40 C.F.R. Part 300. These criteria include, but are not limited to, the following:

i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

Asbestos Exposure

Sample analysis found ACM to contain up to 20% Chrysotile. The ACM is located on the outside of several degraded Site buildings and lying on the ground in an open field. All ACM identified during the removal site assessment is located in close proximity to a Carus Chemical Company building which is an active operating chemical manufacturing facility. Currently workers are present throughout the Site and at adjacent properties; therefore, they can easily be exposed to the ACM. A large portion of the Site is wooded and animals are regularly seen throughout the Site.

Friable asbestos is listed as a hazardous substance under Section 102 of CERCLA, 42 U.S.C. § 9602 (Designation of Hazardous Substances, 40 C.F.R. § 302.4). Additionally, EPA has identified asbestos as a hazardous air pollutant under Section 112 of the Clean Air Act, 42 U.S.C. § 7412 (b).

Asbestos is the name given to a number of naturally occurring fibrous minerals with high tensile strength, the ability to be woven, and resistance to heat and most chemicals. Because of these properties, asbestos fibers have been used in a wide range of manufactured goods, including roofing shingles, ceiling and floor tiles, paper and cement products, textiles, coatings, and friction products such as automobile clutch, brake, and transmission parts. The current federal definition of asbestos is the asbestiform varieties of: chrisotile (serpentine); crocidolite (riebeckit); amosite (cummingtonite/grunerite); anthophyllite; temolite; and actinolite.

Health Effects

Exposure to airborne friable asbestos may result in a potential health risk because persons breathing the air may breathe in asbestos fibers. Continued exposure can increase the amount of fibers that remain in the

lung. Fibers embedded in lung tissue over time may cause serious lung diseases including: asbestosis, lung cancer, or mesothelioma.

According to the Agency for Toxic Substance and Disease Registry:

Asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high levels of asbestos fibers for a long time may result in scar-like tissue in the lungs and in the pleural membrane (lining) that surrounds the lung. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not in the general public. People with asbestosis have difficulty breathing, often a cough, and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

Breathing lower levels of asbestos may result in changes called plaques in the pleural membranes. Pleural plaques can occur in workers and sometimes in people living in areas with high environmental levels of asbestos. Effects on breathing from pleural plaques alone are not usually serious, but higher exposure can lead to a thickening of the pleural membrane that may restrict breathing.

Lead Exposure

Analysis of dust samples collected within the laboratory building confirmed the presence of high concentrations of lead at 16,000 parts per million (ppm) and a Toxicity Characteristic Leaching Procedure (TCLP) value of 48 ppm, exceeding the USEPA Regional Screening Levels for Contaminants of Concern at Superfund Sites and the USEPA Soil Screening Levels criteria of 400 ppm; exceeding the Superfund Lead-Contaminated Residential Sites Handbook Tier 1 properties criteria of 1,200 ppm; exceeding the TCLP 40 CFR §261.24 criteria of 5 ppm; and exceeding the Superfund Adult Lead Methodology screening value for soil lead at commercial/industrial Sites criteria of 800 ppm. As noted above, other metals were found in the laboratory building that is not structurally sound and on the verge of collapse. The building is adjacent to the active Carus Chemical Company. If the building were to collapse, the workers at the Carus Chemical Company would be exposed to concentrations of arsenic, cadmium, lead, and zinc above regulatory criteria. Exposure to this dust can cause elevated levels of arsenic, cadmium, lead, and zinc in the blood. Exposure to arsenic can cause skin discoloration and other dermal abnormalities. Cadmium damages the lungs, can damage the kidneys, and may irritate the digestive tract. Lead can damage the nervous system, kidneys, and reproductive system. The poor integrity of the removal site building serves as a possible exposure pathway and could result in substantial exposures for human populations, animals, and the environment.

Health Effects

According to the Agency for Toxic Substance and Disease Registry:

Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High level exposure in men can damage the organs responsible for sperm production.

ii) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released:

Friable asbestos was observed at several locations on Site. The ACM is exposed to the environment and in poor condition. The location and condition of the friable asbestos could cause it to become airborne and migrate off Site. Off Site migration could result in substantial exposures for human populations, animals, and the environment, primarily workers at the Carus Chemical Company and contractors conducting the remedial investigation.

Weather will continue to contribute to deterioration of the on Site laboratory building, which could result in the collapse of the structure. When lead is released to the air, it may travel long distances before settling to the ground. This potential collapse creates the risk for a release of high levels of lead dust into the atmosphere and off Site, thereby exposing nearby workers, animals, and the environment.

iii) The availability of other appropriate federal or state response mechanisms to respond to the release:

On August 17, 2008, the USEPA Remedial Response Branch requested the assistance of the USEPA Emergency Response Branch in mitigating the potential threats at the Matthiessen and Hegeler Zinc Site. Illinois EPA (IEPA), the Site owner/operators, and the City of La Salle have indicated they do not have the resources to perform a cleanup.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the known and suspected hazardous substances on Site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The response actions described in this memorandum directly address actual or potential releases of hazardous substances on Site, which may pose an imminent and substantial endangerment to public health, or welfare, or the environment. Removal activities on Site will include:

1) Develop and implement a Site Health and Safety Plan and Site Security Plan;

2) Conduct personnel and perimeter air monitoring for asbestos and lead during all work activities to protect workers and nearby populations;

3) Remove and properly dispose of friable ACM;

4) Dismantle the structurally unsound laboratory building to abate lead dust threat, properly dispose of lead and other metal-contaminated debris ;

5) Decontaminate equipment and appropriately dispose of decon-water;

6) Conduct post removal sampling and analysis to verify completion of the removal.

The removal action will be conducted in a manner not inconsistent with the NCP. The OSC has initiated planning for provision of post-removal Site control consistent with the provisions of Section 300.415(l) of the NCP. Elimination of all threats presented by hazardous substances outlined in this memo, however, is expected to minimize the need for post-removal Site control.

The removal activities are expected to take 10 on-Site working days to complete.

The detailed cleanup contractor cost is presented in Attachment 2 and the Independent Government Cost Estimate is presented in Attachment 3; estimated project costs are summarized below:

REMOVAL PROJECT CEILING ESTIMATE

EXTRAMURAL COSTS:

Regional Removal Allowance Costs:

Total Cleanup Contractor Costs (This cost category includes estimates for: ERRS, subcontractors, Notices to Proceed, and Interagency Agreements with Other Federal Agencies. Includes 20% Contingency.)	$120,428

Other Extramural Costs Not Funded from the Regional Allowance:

Total START, including multiplier costs	$20,350
Subtotal, Extramural Costs	$140,778
Extramural Costs Contingency (20% of Subtotal, Extramural Costs)	$ 28,155
TOTAL REMOVAL ACTION PROJECT CEILING	**$168,933**

All hazardous substances, pollutants, or contaminants removed off Site pursuant to this removal action for treatment, storage, or disposal shall be treated, stored, or disposed of at a facility in compliance with the U.S. EPA Off-Site Rule, 40 CFR §300.440, as determined by U.S. EPA.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants, or contaminants at the Site which may pose an imminent and substantial endangerment to public health and safety and the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements

All applicable, relevant, and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable considering the exigencies of the circumstances. On March 25, 2009, an e-mail was sent to Bruce Everetts of IEPA asking for any State of Illinois ARARs. On March 27, 2009, IEPA provided USEPA with a letter that outlined all ARARs. A copy of the ARAR request email and the letter provided to USEPA have been included in the Administrative Record.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the Site conditions, the nature of the hazardous substances and pollutants or contaminants documented on Site, and the potential exposure pathways to nearby populations described in Sections II, III and IV above, the actual or threatened release of hazardous substances and pollutants or contaminants from the Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare or the environment.

VII. OUTSTANDING POLICY ISSUES

Lead and asbestos are the principal contaminants of concern. As this Site is within the Matthiessen and Hegeler Zinc Site, OSWER Directive 9360.0-19 Guidance on Non-NPL Removal Actions Involving Nationally Significant or Precedent-Setting Issues is not applicable. There are no outstanding policy issues. Though concurrence is not required, a copy of this Action Memo will be provided to EPA Headquarters.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential Attachment.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $370,456.[1]

($168,933 + $50,000) + (69.21% x $218,933) = $370,456

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[1] Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 27, 2008. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Matthiessen and Hegeler Zinc Site located at 1256 Sterling Street, LaSalle, Illinois. It was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site (Attachment 4). Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action.

The total removal action project ceiling if approved will be $168,933. Of this, an estimated $148,583 may be used for cleanup contractor costs. You may indicate your decision by signing below.

APPROVE _____ DATE: 5/27/09
Director, Superfund Division

DISAPPROVE _____ DATE: _____
Director, Superfund Division

Enforcement Addendum

Attachments

1. Environmental Justice Analysis
2. Detailed Cleanup Contractor Cost Estimate
3. Independent Government Cost Estimate
4. Administrative Record Index

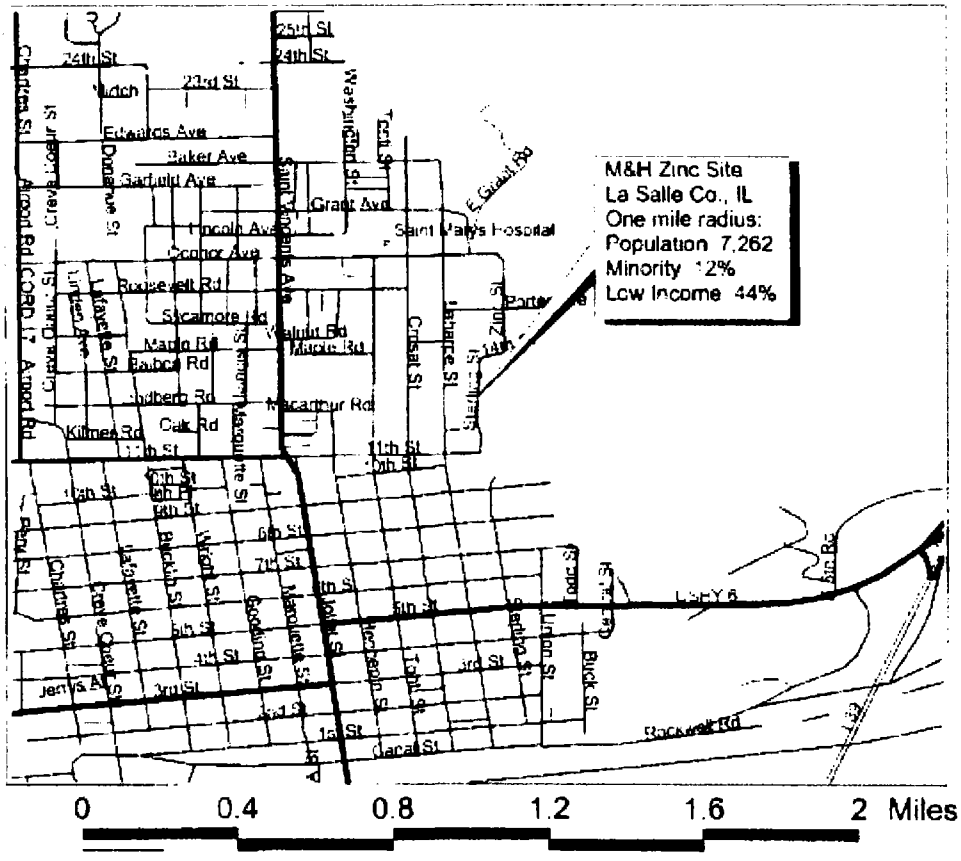
cc: D. Chung, U.S. EPA 5202G
(email: David Chung/DC/USEPA/US)
M. Chezik, U.S. Department of Interior, w/o Enf. Attachment
(email: michael_chezik@ios.doi.gov)
Bruce Everetts, IEPA w/o Enf. Addendum
(email: Bruce.Everetts@Illinois.gov)

ATTACHMENT 1

Environmental Justice Analysis
Matthiessen and Hegeler Zinc Site
LaSalle, IL
April 2009

Region 5 Superfund EJ Analysis

M&H Zinc Site La Salle, IL



State of Illinois averages:
Minority: 32%
Low Income: 27%

U.S. EPA Region 5
Environmental Justice Case Criteria
for State of Illinois

Minority: 64% or greater

Low Income: 54% or greater

ATTACHMENT 2

DETAILED CLEANUP CONTRACTOR & START ESTIMATE

MATTHIESSEN & HEGELER ZINC SITE
LASALLE, LASALLE COUNTY, ILLINOIS

APRIL 2009

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

(REDACTED 1 PAGE)

ATTACHMENT 3

INDEPENDENT GOVERNMENT COST ESTIMATE

MATTHIESSEN & HEGELER ZINC COMPANY SITE
LASALLE, LASALLE COUNTY, ILLINOIS

APRIL 2009

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

(REDACTED 2 PAGES)

ATTACHMENT 4

Administrative Record Index
Matthiessen and Hegeler Zinc Site
LaSalle, IL
April 2009

ATTACHMENT 4

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
M&H ZINC SITE
LASALLE, LASALLE COUNTY, ILLINOIS

ORIGINAL
APRIL 1, 2009

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	11/14/08	STN Environmental, JV	U.S. EPA	Removal Assessment Report for the M&H Zinc Site	44
2	03/27/09	Everetts, B., Illinois EPA	Holz, T., U.S. EPA	Letter re: Illinois EPA Response to U.S. Request for ARARs for the M&H Zinc Site	4
3	03/30/09	Collier, D., U.S. EPA	Theisen, K., U.S. EPA	E-Mail Transmission re: Request for Removal Assessment at the M&H Zinc Site	1
4	00/00/00	Holz, T., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request to Conduct a Time-Critical Removal Action at the M&H Zinc Site **(PENDING)**	

ENFORCEMENT ADDENDUM

MATTHIESSEN & HEGELER ZINC COMPANY SITE
LASALLE, LASALLE COUNTY, ILLINOIS

MARCH 2009

(REDACTED 3 PAGES)

ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY